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(54) **OXYNITRIDE SEMICONDUCTOR THIN FILM**

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(57) **ABSTRACT**

The purpose of the present invention is to provide an oxide semiconductor thin film, which has relatively high carrier mobility and is suitable as a channel layer material for a TFT, from an oxynitride crystalline thin film. According to the present invention, a crystalline oxynitride semiconductor thin film is obtained by annealing an amorphous oxynitride semiconductor thin film containing In, O, and N or an amorphous oxynitride semiconductor thin film containing In, O, N, and an additional element M, where M is one or more elements selected from among Zn, Ga, Ti, Si, Ge, Sn,
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